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**STATEMENT UNDER 37 CFR 3.73(b)**

Applicant/Patent Owner: Loyd E. East, Jr., et al

Application No./Patent No.: 10/727,453 Filed/Issue Date: 12/4/2003

Entitled: Method of Optimizing Production of Gas from Vertical Wells in Coal Seams

Halliburton Energy Services, Inc., a corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or

2. ☐ an assignee of less than the entire right, title and interest.

The extent (by percentage) of its ownership interest is \_\_\_\_\_ %  
in the patent application/patent identified above by virtue of either:

A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

OR

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

2. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
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3. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☒ Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

3-9-2004

Date

580-251-3125

Telephone number

Robert A. Kent

Typed or printed name

Robert A. Kent

Signature

Senior Counsel

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

**ASSIGNMENT**

Whereas, I/We, **Loyd E. East, Jr.** of Denton County, Carrollton, Texas, **S. Dana Weida** of Denton County, Carrollton, Texas, **Mohamad Y. Soliman** of Denton, Carrollton, Texas, and **Jim B. Surjaatmadja** of Stephens County, Duncan, Oklahoma, have invented **"Method of Optimizing Production of Gas from Vertical Wells in Coal Seams"** for which I have made application for Letters Patent of the United States; and

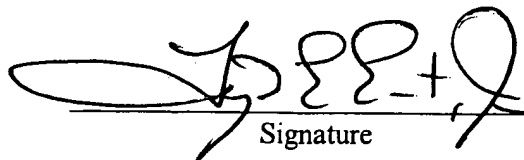
Whereas, HALLIBURTON ENERGY SERVICES, INC., a Delaware Corporation, having a place of business at 10200 Bellaire Boulevard, Houston, Texas 77072 is desirous of acquiring an interest therein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I/We, by these presents do sell, assign and transfer and convey unto HALLIBURTON ENERGY SERVICES, INC., its successors and assigns, the full and exclusive right, for the United States of America and its territorial possessions and for any and all foreign countries, in and to the said invention, described in the Patent Application serial number **10/727,453** filed on **12/4/2003**, and any divisional, continuing or reissue application based on the present application preparatory to obtaining Letters Patent of the United States therefor; said invention, application and any and all Letters Patent issuing therefor to be held and enjoyed by HALLIBURTON ENERGY SERVICES, INC., for its own use and behoof, and for its legal representatives, successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me and had this assignment and sale not been made.

And I do further agree to sign all papers, make all rightful oaths and do all requisite acts for the filing of any disclaimer or for the filing and assignment of any divisional, continuing or reissue application or applications for patent based on the present application, as well as for any other U.S. or foreign application for patent which relates to the said invention.

And I do further agree to communicate to HALLIBURTON ENERGY SERVICES, INC., its successors, assign or other legal representatives, such facts relating to the invention disclosed in the present application or Letters Patent issuing thereon as may be known to me, and to testify as to such facts in any interference or other litigation.

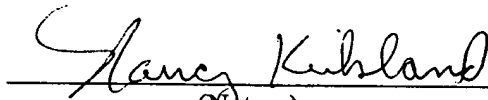
Executed this 9<sup>th</sup> <sup>FEBRUARY</sup> day of ~~January~~, 2004, at Carrollton, Denton County, Texas, U.S.A.

  
\_\_\_\_\_  
Signature

STATE OF TEXAS           )  
                                  ) ss  
COUNTY OF DENTON       )

Before me personally appeared said **Lloyd E. East, Jr.** and acknowledged the foregoing instrument to be his free act and deed this 16<sup>th</sup> day of <sup>February</sup>~~January~~, 2004.

Seal

  
\_\_\_\_\_  
(Notary)

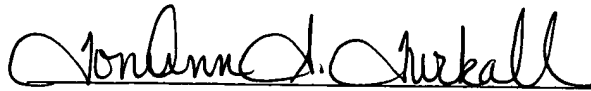
Executed this 23<sup>rd</sup> day of January, 2004, at Carrollton, Denton County, Texas, U.S.A.

  
\_\_\_\_\_  
Signature

<sup>Pennsylvania</sup>  
STATE OF ~~TEXAS~~           )  
                                  ) ss  
COUNTY OF <sup>Allegheny</sup>~~DENTON~~       )

Before me personally appeared said **S. Dana Weida** and acknowledged the foregoing instrument to be his free act and deed this 23<sup>rd</sup> day of January, 2004.

Seal

  
\_\_\_\_\_  
(Notary)

Notarial Seal  
ToniAnn S. Turkall, Notary Public  
Findley Twp., Allegheny County  
My Commission Expires Feb. 19, 2004  
Member, Pennsylvania Association of Notaries

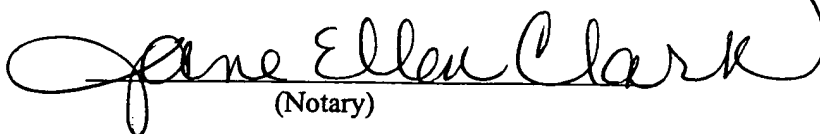
Executed this 13<sup>th</sup> day of <sup>Feb.</sup>~~January~~, 2004, at Carrollton, Denton County, Texas, U.S.A.

  
Signature

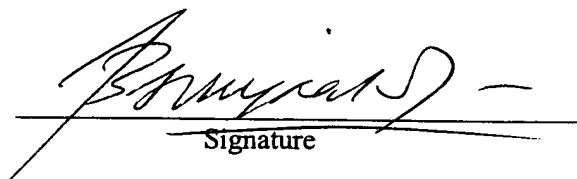
STATE OF TEXAS           )  
                                  ) ss  
COUNTY OF DENTON       )

Before me personally appeared said **Mohamad Y. Soliman** and acknowledged the foregoing instrument to be his free act and deed this 13<sup>th</sup> day of <sup>Feb.</sup>~~January~~, 2004.

Seal

  
(Notary)

Executed this 18<sup>th</sup> day of <sup>February</sup>~~January~~, 2004, at Duncan, Stephens County, Oklahoma, U.S.A.

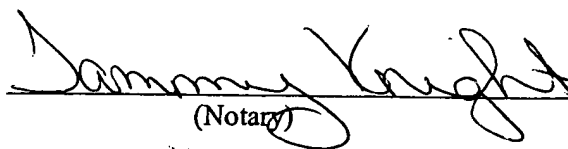
  
Signature

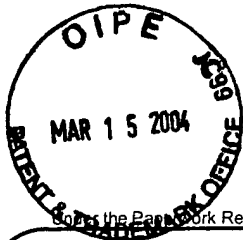
STATE OF OKLAHOMA       )  
                                  ) ss  
COUNTY OF STEPHENS     )

Before me personally appeared said **Jim B. Surjaatmadja** and acknowledged the foregoing instrument to be his free act and deed this 18<sup>th</sup> day of <sup>Feb.</sup>~~January~~, 2004.

Seal

2-13-2006

  
(Notary)  
#02002595



PTO/SB/01 (08-03)

Approved for use through 07/31/2006. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**DECLARATION FOR UTILITY OR  
DESIGN  
PATENT APPLICATION  
(37 CFR 1.63)**Declaration  
Submitted  
With Initial  
Filing

OR

Declaration  
Submitted after Initial  
Filing (surcharge  
(37 CFR 1.16 (e))  
required)

Attorney Docket Number

2003-IP-011867U1

First Named Inventor

Lloyd E. East, Jr.

COMPLETE IF KNOWN

Application Number

10/727,453

Filing Date

12/4/2003

Art Unit

Examiner Name

**I hereby declare that:**

Each inventor's residence, mailing address, and citizenship are as stated below next to their name.

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Method of Optimizing Production of Gas from Vertical Wells in Coal Seams

(Title of the Invention)

the specification of which



is attached hereto

OR



was filed on (MM/DD/YYYY)

12/4/2003

as United States Application Number or PCT International

Application Number

10/727,453

and was amended on (MM/DD/YYYY)

(if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				Yes	No
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

[Page 1 of 2]

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**DECLARATION — Utility or Design Patent Application**Direct all correspondence to: ☐ Customer Number:  OR ☒ Correspondence address below

Name

Halliburton Energy Services - ATTN: Robert A. Kent

Address

P.O. Box 1431

City

Duncan

State

OK

ZIP

73536-0440

Country

USA

Telephone

580-251-3125

Fax

580-251-3917

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**NAME OF SOLE OR FIRST INVENTOR:**☐ A petition has been filed for this unsigned inventor

Given Name

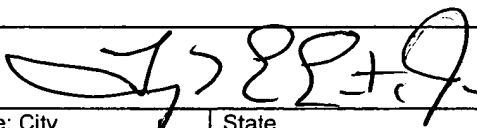
(first and middle [if any])

Lloyd E.

Family Name

or Surname

East, Jr.

Inventor's  
Signature

Date

2-9-04

Residence: City

Frisco

State

TX

Country

USA

Citizenship

USA

Mailing Address

1626 Natural Bridge

City

Frisco

State

TX

ZIP

75034

Country

USA

**NAME OF SECOND INVENTOR:**☐ A petition has been filed for this unsigned inventor

Given Name

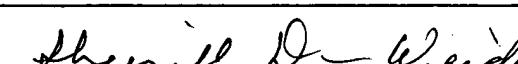
(first and middle [if any])

S. Dana

Family Name

or Surname

Weida

Inventor's  
Signature

Date

1/22/04

Residence: City

Carrollton

State

TX

Country

US

Citizenship

USA

Mailing Address

1016 Hunters Creek Drive

City

Carrollton

State

TX

ZIP

75007

Country

USA



Additional inventors or a legal representative are being named on the 1 supplemental sheet(s) PTO/SB/02A or 02LR attached hereto.



PTO/SB/02A (08-03)


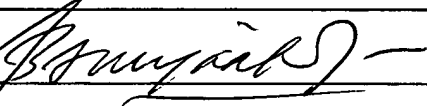
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**DECLARATION****ADDITIONAL INVENTOR(S)**  
Supplemental Sheet

Page 1 of 1

<b>Name of Additional Joint Inventor, if any:</b>		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Mohamed Y.		Soliman	
Inventor's Signature 		Date 2/13/04	
Plano Residence: City	TX State	USA Country	US Citizenship
3617 S. Echo Trail Mailing Address			
Mailing Address			
Plano City	TX State	75023 Zip	USA Country
<b>Name of Additional Joint Inventor, if any:</b>		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Jim B.		Surjaatmadja	
Inventor's Signature 		Date 2/18/04	
Duncan Residence: City	OK State	USA Country	US Citizenship
1105 Timbercreek Drive Mailing Address			
Mailing Address			
Duncan City	OK State	73533 Zip	USA Country
<b>Name of Additional Joint Inventor, if any:</b>		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
Inventor's Signature		Date	
Residence: City	State	Country	Citizenship
Mailing Address			
Mailing Address			
City	State	Zip	Country

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PTO/SB/81 (05-03)  
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## POWER OF ATTORNEY OR AUTHORIZATION OF AGENT

Application Number	10/727,453
Filing Date	12/04/2003
First Named Inventor	Loyd E. East, Jr., et al
Title	Method of Optimizing
Art Unit	
Examiner Name	
Attorney Docket Number	2003-IP-011867U1

I hereby appoint:

☐ Practitioners at Customer Number

Place Customer  
Number Bar Code  
Label here

OR

☒ Practitioner(s) named below:

Name	Registration Number
See attached	

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please change the correspondence address for the above-identified application to:

☐ The above-mentioned Customer Number.

OR

☐ Practitioners at Customer Number.

Place Customer  
Number Bar Code  
Label here

OR

☐ Firm or  
Individual Name

Address

Address

City

State

Zip

Country

Telephone

Fax

I am the:

☐ Applicant/Inventor.

☒ Assignee of record of the entire interest. See 37 CFR 3.71.  
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).

### SIGNATURE of Applicant or Assignee of Record

Name	Robert A. Kent		
Signature			
Date		Telephone	580-251-3125

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☐ \*Total of \_\_\_\_\_ forms are submitted.

This collection of information is required by 37 CFR 1.31 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Please type a plus sign (+) inside this box → ☐

PTO/SB/02C (3-87)

Approved for use through 6/30/98. OMB 0851-0032

Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

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DECLARATION		REGISTERED PRACTITIONER INFORMATION (Supplemental Sheet)	
Name	Registration Number	Name	Registration Number
Halliburton Energy Services, Inc. Practitioners		Baker Botts Practitioners	
William E. Shull	29,438	Mitchell D. Lukin	30,772
William M. Imwalle	35,904	Carey C. Jordan	47,646
Robert A. Kent	28,626	Iona Kaiser	53,086
Craig W. Roddy	36,256		
John W. Wusternberg	35,415		

**Readers Note:** This form is estimated to take 0.4 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20501. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20521.

Declaration — Registered Practitioner Information (Supplemental Sheet) (PTO/SB/02C)(1-1.4)